

c) PFS:

$$\sum \{ \tau_s \}_A = \{ 0 \} \quad 1$$

$$\Rightarrow \left\{ \begin{matrix} 0 \\ Y_B \\ Z_B \end{matrix} \right\} + \left\{ \begin{matrix} 0 \\ -200 Z_B \\ 200 Y_B \end{matrix} \right\}_A + \left\{ \begin{matrix} 1000 \\ -500 \\ E_z \end{matrix} \right\} + \left\{ \begin{matrix} 60 E_z \\ 100 E_z \\ -11.10^4 \end{matrix} \right\}_A + \left\{ \begin{matrix} X_A \\ Y_A \\ Z_A \end{matrix} \right\} + \left\{ \begin{matrix} 0 \\ 0 \\ 0 \end{matrix} \right\} = \left\{ \begin{matrix} 0 \\ 0 \\ 0 \end{matrix} \right\}$$

$$\Rightarrow \begin{cases} X_A + 0 + 1000 + 0 = 0 & (1) \quad 1 \\ Y_A + Y_B - 500 + 0 = 0 & (2) \quad 1 \\ Z_A + Z_B + E_z + 0 = 0 & (3) \quad 1 \end{cases}$$

$$\begin{cases} 0 + 0 + 60 E_z + 100.10^3 = 0 & (4) \quad 1 \\ 0 - 200 Z_B + 100 E_z + 0 = 0 & (5) \quad 1 \\ 0 + 200 Y_B - 11.10^4 + 0 = 0 & (6) \quad 1 \end{cases}$$

d) calculer  $E_z$

l'éq 4  $\Rightarrow E_z = \frac{-100.10^3}{60} = -\frac{10.10^3}{6} N$

$$[E_z = -1666,67 N] \quad 1.5.$$

$$\left( \begin{matrix} 10^6 \\ 40 \\ 40 \\ 40 \end{matrix} \right) 1,666,67$$